

FIG. 1

1
 SCPA49 LRRKKQLPFDKLAIALMSTSIILLNAQSDIKANTVTEDTATEQAVEIPQPTTVSEEVPS
 SCPA12 -----V-----A-----
 SCPB -----T-----A-----
 61
 KETKTPQTPDDAETVADDANDLAPQAKTPDTSATSKATIRDLNDPSQVKTLEKAGK
 -----I-----A-----P-----
 -----S-----G-----A-----P-----
 121
 GAGTVVAVIDAGFDKNHEAWRLTDKAKARYQSKEDLEKAKKEHGITYGEVWNVKVAYYHD
 -----T-----
 -----T-----
 181
 YKDGKTAVDQEHGTHVSGILSGNAPSETKEPYRLEGAMPEAQLLLHRVEIVGLADYAR

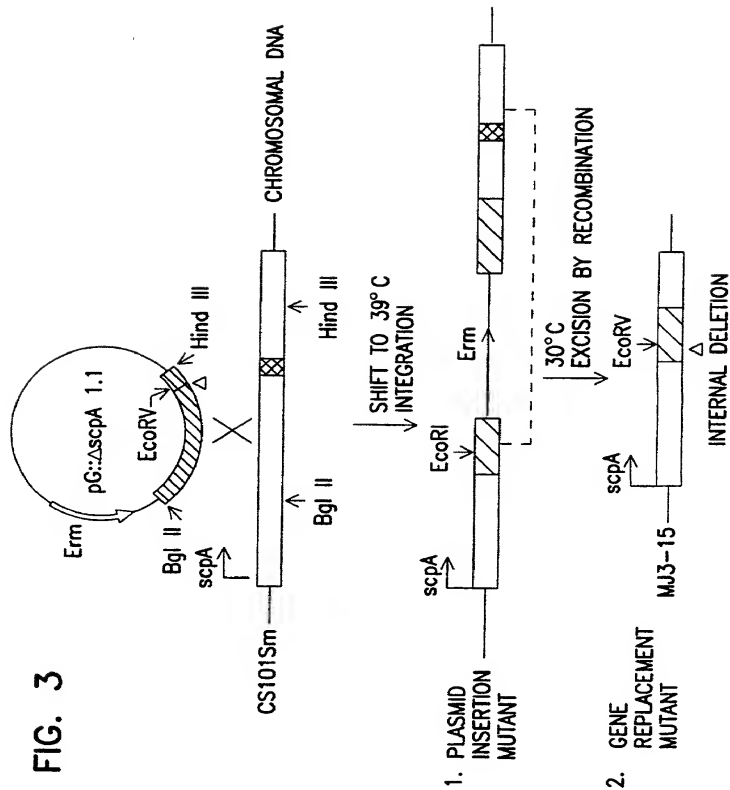
 241
 NYAQAIRDAVNLGAKVINMSTFGNAALAYANLPDETKKPFVYAKSKGVRIVTTAGNDSSFG
 -----A-----D-----S-----S-----
 -----I-----A-----D-----S-----S-----
 301
 GKTRPLADHPDYGVVGTAAADSTLTVASYSPDNQLTETAMVKITDDQDKEMPVLSTNR
 -----K-----
 -----K-----VR-----A-----
 361
 FEPNKAYDYAYANRGHKEDDFKDVKGKIALIERSDIDFDKIANAKAGAVGLIYDNQO
 -----G-----K-----V-----K-----
 -----T-----G-----K-----K-----
 421
 KGFPPIELPNVDQHPAAFISRKDGLLLKDNSQKTTITFNATPKVLPTASGKILSRFSSWGLT
 -----P-----
 -----P-----
 481
 ADGNIKPDIAAPGQDILSSAANNKYKLSGTSHPAPLAVAVIMGLQKQYETQYPMQTQSE
 -----V-----G-----P-----
 -----V-----G-----P-----
 541
 RDLAKKVLMSSTATALYDEDEKAYFSPROQGAGAVDAKKASEATHYVIDKDNISSKVHLN
 -----A-----

 601
 NVSDKFEVIVIVHNKSDKPHELYQATVQIDKVDGKHFPALAPKALITETSWQKITIPANS
 -----Q-----V-----Y-----A-----
 -----N-----Q-----V-----Y-----A-----
 661
 KQVTIPIDISQFSKDLLAKMNGYFLEGFVRIKQDPIKEELHSIPYIGFRGDFGNLSALE
 -----V-----A-----R-----F-----V-----
 -----V-----A-----R-----F-----K-----
 721
 KPLYDSKIDGSSYYHEEISDAKDQLDGDGLFYALKNDFTALITESNPNTIINVKEGVEN
 -----AN-----N-----KA-----
 -----AN-----N-----KA-----
 781
 IEDIESSEITETIFAGTFAKQODRHYIHRHANGKPYAAISPNGDGNRDYVQPHGTFLR
 -----S-----E-----Q-----
 -----L-----S-----Q-----
 841
 NAKNLVAEVLDEKGNVVKISEVIEQVVKYNNNDLASTLGSTRFEISRHDGKDKDAKVAN
 -----KT-----G-----
 -----KT-----G-----
 901
 GITYYRVRYTPISSGAKEQHTDFDIVDNITPEVATSATFSIEDRLTLASKPQISQPVY
 -----K-----
 -----K-----
 961
 RERIAITYMEDLDPTIEYISPNEGTFTLPEEAETMEGATVPLKMSDFIYVVEDMAGNIT
 -----T-----
 1021
 YTPVIKLEGHHSNKPEQDGSQAAPDKKPEKPEQDGSQAAPDKKPEKPEQDGSQQTPOK
 -----G-----T-----A-----A-----E-----
 -----A-----E-----
 1081
 KPEKPEKDSGQTPGKTPQKQPSRTLKRSKRALATKASTRDQLPTINDKDTNRLHL
 -----T-----

 1141
 LKLVMITTFGLGLVAHIFKTKR...TED
 -----F-----OKE-KK
 -----OKE-KK

FIG. 2

FIG. 3



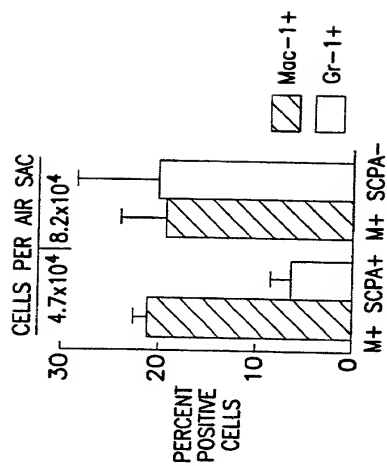
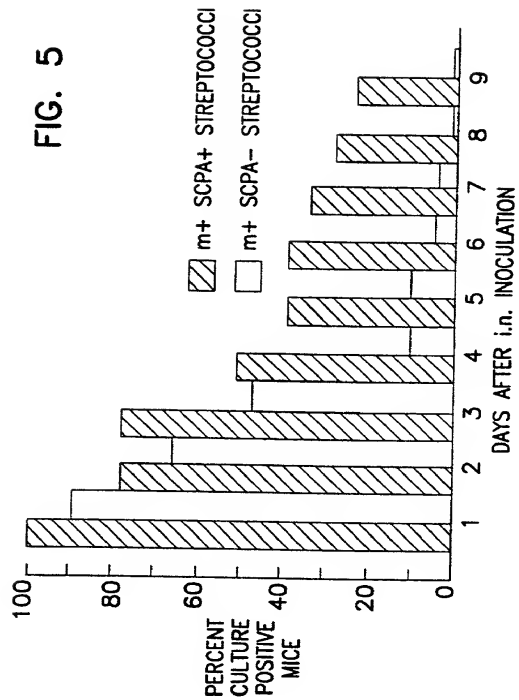


FIG. 4



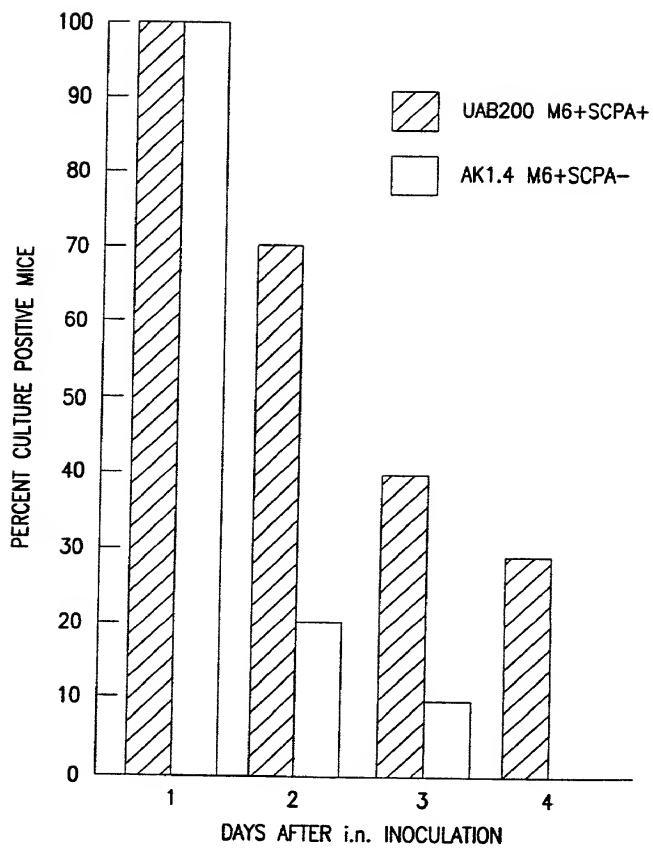
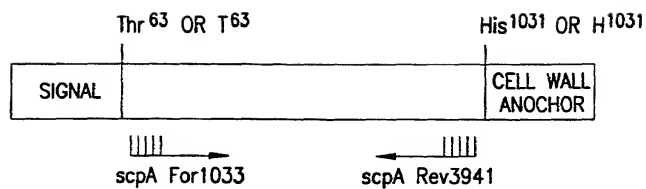


FIG. 6



FRAGMENT SUBCLONED



pGEX-4T-1 EXPRESSION VECTOR GIUTATHIONE-SCPA49 FUSION



AFFINITY PURIFATION-GLUTATHIONE COLUMN



INTRANASAL INOCULATION
(FIVE 40 μ g DOSES)

FIG. 7

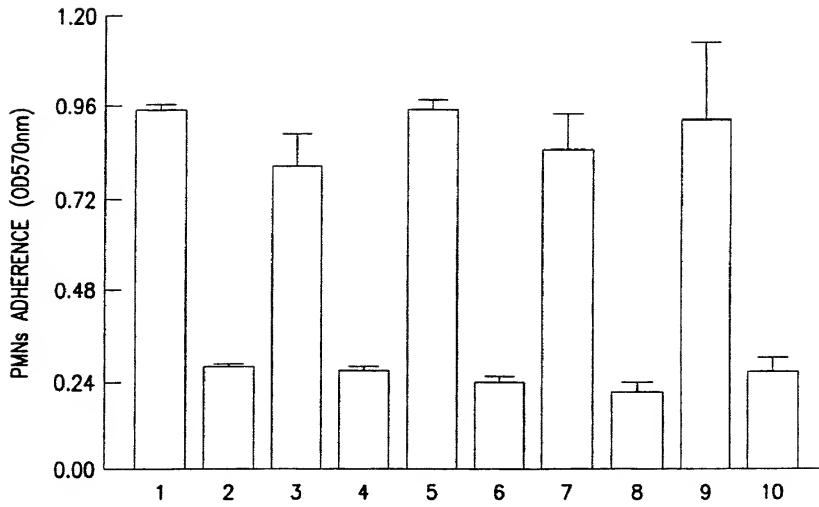


FIG. 8

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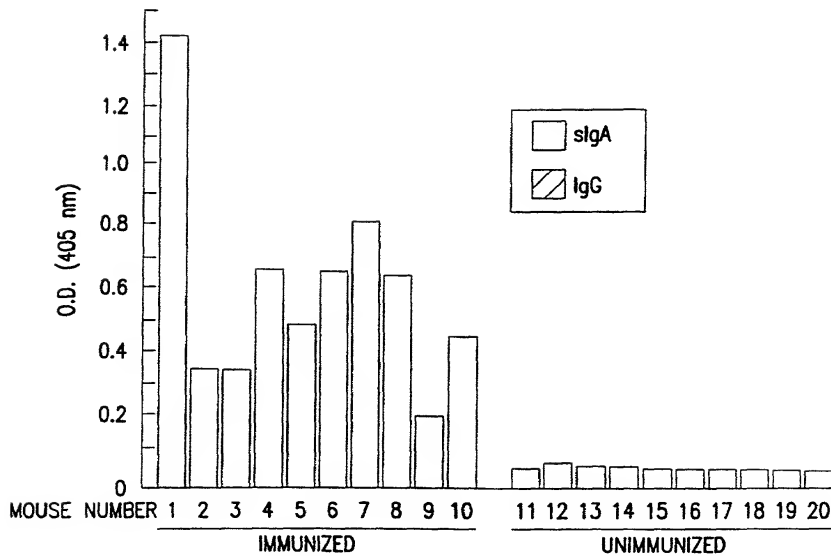


FIG. 9A

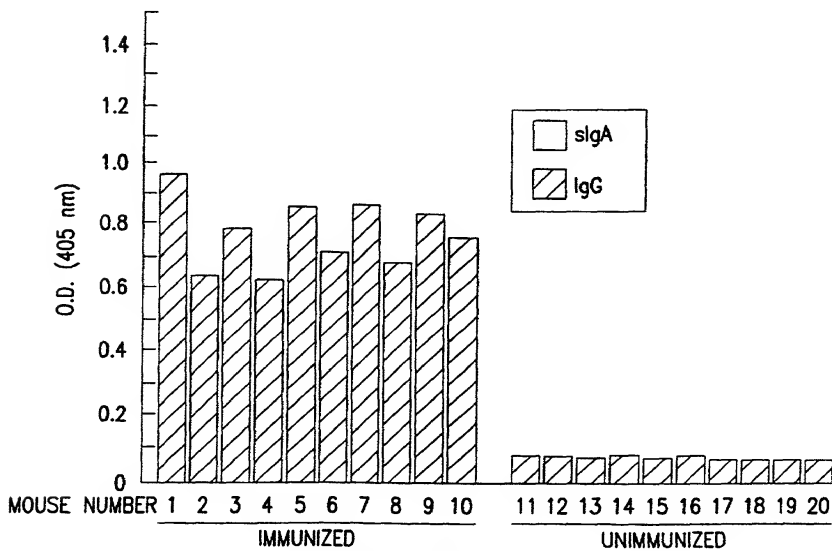


FIG. 9B

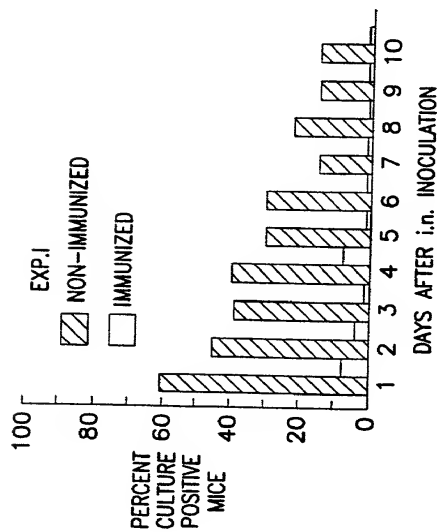


FIG. 10A

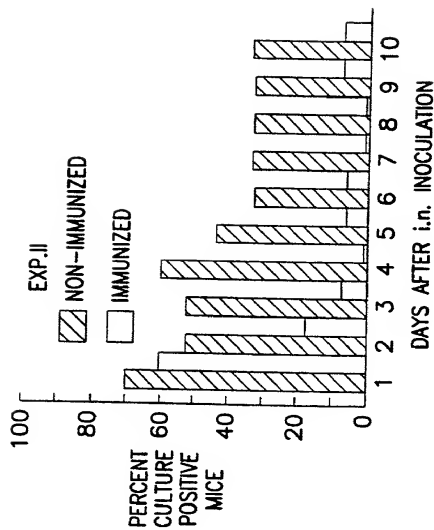


FIG. 10B

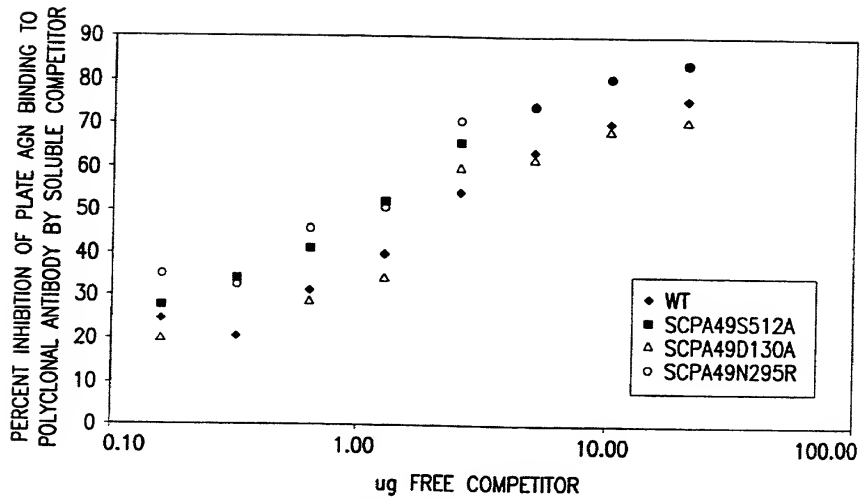


FIG. 11

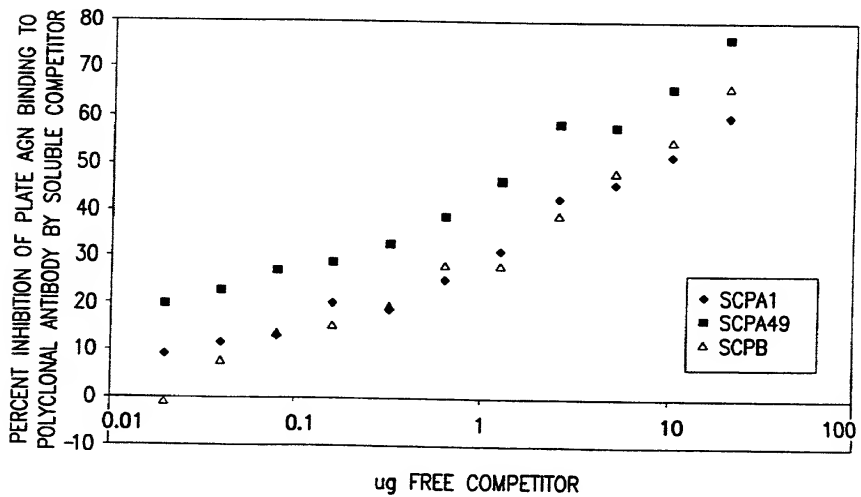


FIG. 12